



U.S. Department
of Transportation
**Pipeline and
Hazardous Materials
Safety Administration**

**IAEA CERTIFICATE OF COMPETENT AUTHORITY
SPECIAL FORM RADIOACTIVE MATERIALS
CERTIFICATE USA/0078/S-96, REVISION 9**

400 Seventh Street, S.W.
Washington, D.C. 20590

This certifies that the source described has been demonstrated to meet the regulatory requirements for special form radioactive material as prescribed in the regulations of the International Atomic Energy Agency¹ and the United States of America² for the transport of radioactive material.

1. Source Identification - Gulf Nuclear Model CSV.
2. Source Description - Cylindrical welded double encapsulation made of Type 17-4 stainless steel. Approximate outer dimensions are 5.0 mm (0.2 in.) to 25.4 mm (1.0 in.) in diameter and 12.7 mm (0.5 in.) to 76.2 mm (3.0 in.) in length. Construction shall be in accordance with attached Gearhart Drawing No. 015-2011-039 or Dresser Atlas Drawing No. 88645.
3. Radioactive Contents - No more than either 111.0 GBq (3.0 Ci) of Thulium-170 as an oxide, 370.0 GBq (10.0 Ci) of Cesium-137 as ceramic pellets, 185.0 GBq (5.0 Ci) of Cobalt-60 as a metal, 74.0 GBq (2.0 Ci) of Americium-241 as an oxide, or 1.85 GBq (0.05 Ci) of Radium-226 as a sulfate.
4. Quality Assurance - Records of Quality Assurance activities required by Paragraph 310 of the IAEA regulations¹ shall be maintained and made available to the authorized officials for at least three years after the last shipment authorized by this certificate. Consignors and consignees in the United States exporting or importing shipments under this certificate shall satisfy the requirements of Subpart H of 10 CFR 71.
5. Expiration Date - This certificate expires on January 31, 2011.

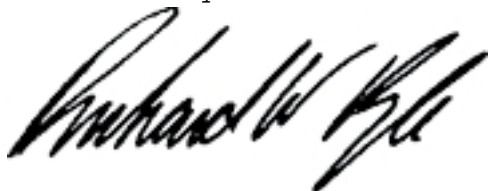
¹ "Regulations for the Safe Transport of Radioactive Material, 1996 Edition (Revised), No. TS-R-1 (ST-1, Revised)," published by the International Atomic Energy Agency(IAEA), Vienna, Austria.

² Title 49, Code of Federal Regulations, Parts 100-199, United States of America.

CERTIFICATE USA/0078/S-96, REVISION 9


This certificate is issued in accordance with paragraph 804 of the IAEA Regulations and Section 173.476 of Title 49 of the Code of Federal Regulations, in response to the December 12, 2005 petition by QSA Global, Inc., Burlington, MA and in consideration of other information on file in this Office.

Certified By:



Jan 18 2006

(DATE)

 Robert A. McGuire

Associate Administrator for Hazardous Materials Safety

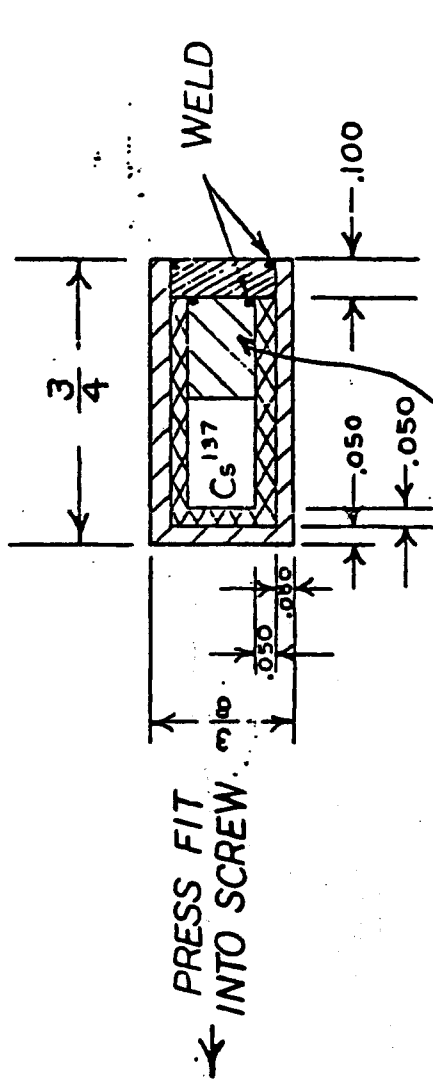
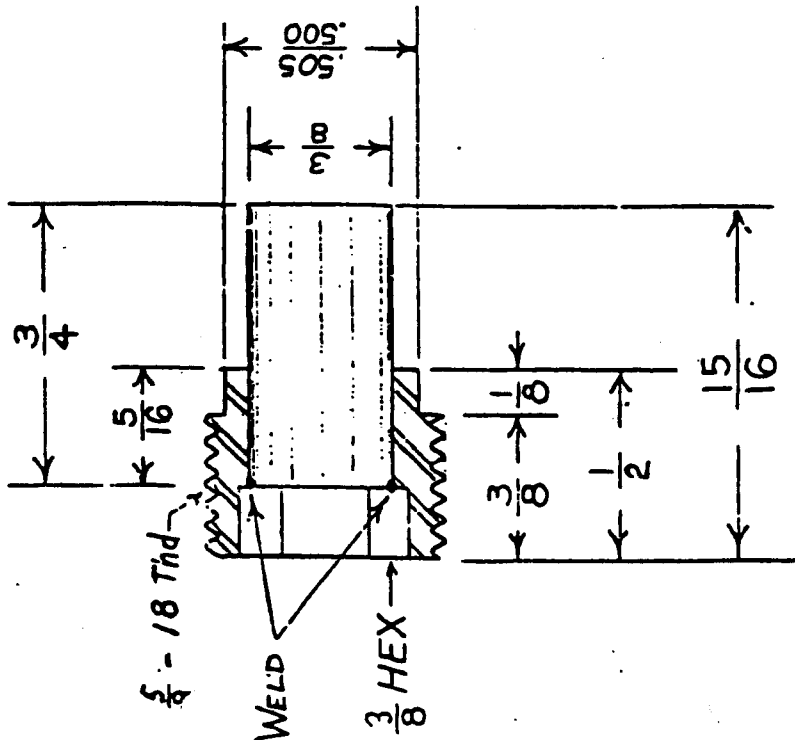
Revision 9 - Issued to extend the expiration date.

015-2011-039

MODIFY $\frac{1}{2} \times \frac{3}{4}$ SOCKET HEAD CAP SCREW
AS SHOWN 18 THDS PER INCH
(STAINLESS STEEL)

SOURCE STRENGTH:

CESIUM 137
+200 MILLICURIE
-100 MILLICURIE



LENGTH AS REQD.
FOR SOURCE MAT'L.

NOTES:

MATL: 17.4 PH/316 S.S.

003-4703-800

N/A: 003-4703-000

TOLERANCES UNLESS NOTED OTHERWISE

(DECIMAL $\pm .008$) (FRACTIONAL $\pm 1/64$) (ANGULAR $\pm 1/2^\circ$)

DIAMETERS CONCENTRIC TO \pm T.I.R.
FINISH MARK V INDICATES POLISH FINISH
BREAK SHARP EDGES WITH $1/64$ RADIUS

MATL: Δ (VFM)

HEAT TREAT: N/A

SCALE: 2/1

DATE: 11-11-71

GEARHART INDUSTRIES, INC.

BOX 1936 - FORT WORTH, TEXAS 76101

COMPENSATED DENSITY SOURCE

2C CESIUM 137

3 ECO 11737 R 10-27-83

2 ECO 9713 50m 5-27-83

1 ECO #2493 A.F. 10-6-71

DRAWN BY: JT

APPROVED BY:

Title Dresser Atlas 2 Ci Cesium 137 Source

Date Oct 1980

Drawing No. 88645

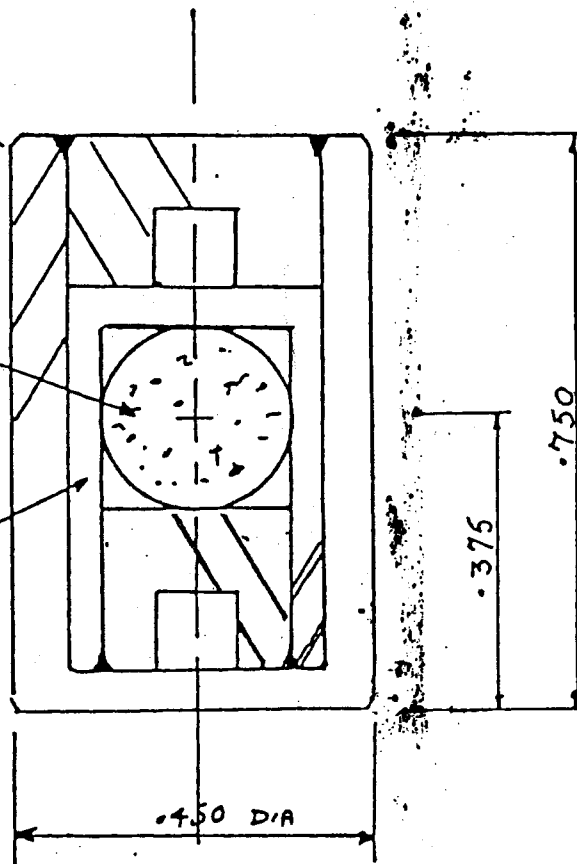
sheath drg A88643

cell A88644

sheath XN 226

ceramic
diameter ≈ 0.22

cell XN 225



Dims inches

Scale 4:1